



**DIVISION OF  
FISHERIES & WILDLIFE**

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**MA ENDANGERED SPECIES ACT (M.G.L. c.131A)  
CONSERVATION AND MANAGEMENT PERMIT**

<b>DATE</b>	September 29, 2020
<b>CONSERVATION PERMIT No.:</b>	020-358.DFW
<b>NHESP FILE No.</b>	18-37434
<b>PERMIT HOLDERS</b>	Massachusetts National Guard c/o Timothy Mullen Joint Force Headquarters 2 Randolph Road Hanscom Air Force Base, MA 01731-3001
<b>PROJECT</b>	Camp Edwards Multi-Purpose Machine Gun (MPMG) Range and Master Development Plan

**A. Permit Authority**

Pursuant to the authority granted in the Massachusetts Endangered Species Act (“MESA”) (M.G.L. c. 131A) and its implementing regulations (321 CMR 10.23), the Director of the Massachusetts Division of Fisheries & Wildlife (the “Division”) hereby issues a Conservation and Management Permit (the “Permit”) to the Massachusetts National Guard (the “Permit Holder”). This Permit authorizes the Take of the species below pursuant to the MESA, arising from the construction of the Camp Edwards Multi-Purpose Machine Gun (“MPMG”) Range and Master Development Plan (collectively, the “Project”), within the bounds of Joint Base Cape Cod in the Towns of Bourne and Sandwich, Massachusetts (Barnstable County Registry of Deeds; the “Property”). Joint Base Cape Cod is approximately 21,000 acres in size, roughly bounded by Crane Wildlife Management Area to the south, MA Route 28 to the west, US Route 6 to the north, MA Route 130 to the northeast, the village of Forestdale (Sandwich) to the central-east, and the Mashpee National Wildlife Refuge to the southeast.

<b>Species</b>	<b>MESA Status</b>
Barrens Buckmoth ( <i>Hemileuca maia</i> )	Special Concern
Barrens Dagger Moth ( <i>Acronicta albarufa</i> )	Threatened
Chain Dot Geometer ( <i>Cingilia catenaria</i> )	Special Concern
Coastal Heathland Cutworm ( <i>Abagrotis benjamini</i> )	Special Concern
Eastern Box Turtle ( <i>Terrapene carolina</i> )	Special Concern

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Eastern Hognose Snake ( <i>Heterodon platirhinos</i> )	Special Concern
Eastern Meadow Lark ( <i>Sturnella magna</i> )	Special Concern
Eastern Whip-poor-will ( <i>Antrostomus vociferus</i> )	Special Concern
Frosted Elfin ( <i>Callophrys irus</i> )	Special Concern
Grasshopper Sparrow ( <i>Ammodramus savannarum</i> )	Threatened
Heath Metarranthis ( <i>Metarranthis pilosaria</i> )	Special Concern
Herodias Underwing Moth ( <i>Catocala herodias</i> )	Special Concern
Melsheimer's Sack Bearer ( <i>Cicinnus melsheimeri</i> )	Threatened
Northern Harrier ( <i>Circus hudsonius</i> )	Threatened
Pine Barrens Speranza ( <i>Speranza exonerata</i> )	Special Concern
Pine Barrens Zale ( <i>Zale lunifera</i> )	Special Concern
Pink Sallow Moth ( <i>Psectraglaea carnosa</i> )	Special Concern
Purple Tiger Beetle ( <i>Cicindela purpurea</i> )	Special Concern
Scrub Euchlaena ( <i>Euchlaena madusaria</i> )	Special Concern
Slender Clearwing Sphinx Moth ( <i>Hemaris gracilis</i> )	Special Concern
The Pink Streak ( <i>Dargida rubripennis</i> )	Threatened
Upland Sandpiper ( <i>Bartramia longicauda</i> )	Endangered
Vesper Sparrow ( <i>Poocetes gramineus</i> )	Threatened
Waxed Sallow Moth ( <i>Chaetoglaea cerata</i> )	Special Concern
Woolly Gray ( <i>Lycia ypsilon</i> )	Threatened

## B. Description of Take

The project, as currently proposed, includes the construction of the MPMG Range and other projects described below (the "Master Development Plan"), which may include, additional future phases of development determined by the Division to be part of the Master Development Plan:

Project	Area of Disturbance
Multi-Purpose Machine Gun (MPMG) Range	±207 Acres ( <i>Phase 1: 142 Acres Phase 2: 65 Acres</i> )
Gym Expansion	±5 Acres
Transient Troop Headquarters	±18 Acres
Sierra Range Expansion	±11 Acres
Tango Range Expansion	±2 Acres
Infantry Squad Battle Course	±65 Acres

The Division has determined (letter dated August 6, 2020) that the Project, as proposed, will result in a Take of the above referenced State-listed species through the harming or killing of individuals, interference with feeding, breeding, over-wintering and migratory activities, and the permanent loss of suitable habitat.

## C. Permit Performance Standards

Under the authority granted by and in accordance with M.G.L. c. 131A §3 and 321 CMR 10.23, the Director may permit the Take of a State-listed species for conservation and management purposes provided that there is a long-term Net Benefit to the conservation of the impacted species. If the Director determines that the applicant for a permit has avoided, minimized and mitigated impacts to the State-listed species consistent with the following Performance Standards, then the Director may issue a conservation and management permit, provided:

- (a) the applicant has adequately assessed alternatives to both temporary and permanent impacts to State-listed species;
- (b) an insignificant portion of the local population would be impacted by the Project or Activity, and;
- (c) the applicant agrees to carry out a conservation and management plan that provides a long-term Net Benefit to the conservation of the State-listed species that has been approved by the Director, as provided in 321 CMR 10.23(5), and shall be carried out by the applicant.

The Director has determined that the applicant for this Permit has met the above noted Performance Standards and that the conservation and management plan described herein provides a long-term Net Benefit to the conservation of the above referenced State-listed species.

#### D. Conservation and Management Plan

In order to meet the long-term Net Benefit mitigation requirements for the State-listed species impacted by the Project, the Permit Holder has proposed, by way of the Permit Application, to: (a) permanently protect ±261 acres of high quality habitat for Eastern Box Turtles through a transfer in fee to the Department of Fish and Game; (b) permanently protect and manage ±150 acres of high quality habitat for grassland birds through a transfer in fee to the Department of Fish and Game with conversion of ±90 acres to grassland; (c) establish ±1,177 acres of the Property as Forest Canopy Reserves to benefit Eastern Box Turtles; (d) establish and adaptive manage up to ±3,402 acres of Pine Barrens Mitigation Focal Areas on the Property to benefit State-listed pine barren species as described in the Conservation and Management Permit Application; (e) implement a State-listed species monitoring and research plan, including long-term lepidoptera monitoring, a five (5) year Eastern Box Turtle telemetry study, annual Eastern Whip-poor-will surveys and research, and annual base wide avian surveys. In order to avoid and minimize impacts to the State-listed species impacted by the Project, the Permit Holder has proposed, by way of the Permit Application, to: (f) implement protection plans to protect State-listed species during construction associated with each phase of development. Additional grassland habitat mitigation is identified if necessary, through (g) conversion of secondary Grassland Mitigation Focal Areas within Camp Edwards totaling ±107 acres to benefit State-listed grassland birds, with no action planned unless need is identified.

The Division notes that permanent protection and or management of suitable habitat required to meet the long-term Net Benefit for the State-listed species impacted by the Project is outlined in the following table:

#### Net Benefit Ratios

Guild Associations	Net Benefit Ratio	Net Benefit
Pine Barrens	2:1	Land Protection and Habitat Management
Pine Barrens	4:1	Habitat Management Only
Grassland	2:1	Land Protection and Habitat Management
Grassland	4:1	Conversion/Restoration and Habitat Management
Eastern Box Turtle	1.5:1	Land Protection

#### Applied Net Benefit

Project	Land Protection	Habitat Management
Multi-Purpose Machine Gun (MPMG) Range	Pine Barrens: 133 Acres (Land Transfer) Eastern Box Turtle: 310.5 Acres -261 Acres (Land Transfer) -49.5 Acres (Forest Canopy Reserve)	Pine Barrens: 551 Acres Grassland: 36 Acres (1:1)
Gym Expansion	Eastern Box Turtle: 8 Acres (Forest Canopy Reserve)	Pine Barrens: 20 Acres

Transient Troop Headquarters	Grassland: 9 acres (Land Transfer)	Grassland: 54 Acres
Sierra Range Expansion	Eastern Box Turtle: 17 Acres (Forest Canopy Reserve)	Pine Barrens: 44 Acres
Tango Range Expansion	Eastern Box Turtle: 3 Acres (Forest Canopy Reserve)	Pine Barrens: 8 acres
Infantry Squad Battle Course	Eastern Box Turtle: 98 Acres (Forest Canopy Reserve)	Pine Barrens: 260 Acres

The balance of remaining habitats to be protected and or managed pursuant to this Permit, as outlined in the following table, are to be considered mitigation credit toward the mitigation requirements of a future project(s) proposed by the Permit Holder on the Property requiring a conservation and management plan providing a long-term Net Benefit to State-listed species. The conditions under which this habitat protection and or management shall be considered mitigation credit are more fully described within the Conservation and Management Permit Application.

**Net Benefit Credit for Future Projects**

Net Benefit Type	Acres
Forest Canopy Reserve	1,001.5 Acres
Pine Barrens Mitigation Focal Areas	2,519 Acres
Grassland Land Transfer and Management	141 Acres
Grassland Mitigation Focal Areas (if converted)	107 Acres

Therefore, the Project can be permitted pursuant to the MESA. This Permit is issued to condition the Project and to provide a long-term Net Benefit to the above referenced State-listed species.

**E. Documents and Plans of Records**

In accordance with the documents and plans of record submitted to the Division entitled:

- “Conservation and Management Permit Application” (dated 4/29/2020, prepared by AECOM; the “Permit Application”);
- AUTOMATED MULTIPURPOSE MACHINE GUN RANGE (MPMG) CAMP EDWARDS JOINT BASE CAPE COD BOURNE, MASSACHUSETTS (dated 3/26/2019, Sheets: V-200, SP201, and C-003, prepared by Michael Baker International; the “Project Plan”; [Attachment 1](#));
- MESA Determination (dated August 6, 2020; issued by the Division; [Attachment 2](#));
- Proposed MPMG Range (Phase 1) Eastern Box Turtle Construction Period Monitoring and Protection Plan (dated February 2020, prepared by AECOM; the “Turtle Protection Plan”; [Attachment 3](#));
- Colonel Timothy Mullen’s email correspondence detailing the status and intent of Parcel H of Unit K (totaling ±150 acres) as Net Benefit (Dated 8/21/2020); [Attachment 4](#);

and any other plans and documents referenced herein (collectively, the “Plans of Record”), this Permit is issued with the following conditions:

**F. General Conditions**

GC 1.	The Permit Holder shall comply with all General and Special Conditions of this Permit and complete the Project consistent with all Division-approved plans and supporting documents referenced herein, except as otherwise approved by the Division in writing.
GC 2.	A violation of any General or Special Condition of this Permit will result in an unauthorized Take and may be subject to civil and or criminal penalties pursuant to M.G.L. c. 131A. The Division reserves the right to require an immediate cessation of Work (as defined in Special Condition #1), in whole or in part and at its sole discretion, should the Permit Holder violate any General or Special Condition of this Permit.
GC 3.	The Permit Holder shall submit in writing any documents, plans, reports, or other items required for submission in accordance with this Permit, for review and written approval by the Division, except as otherwise approved by the Division in writing.
GC 4.	Division representatives shall have the right to enter and inspect the Property subject to this Permit at reasonable hours to evaluate Permit compliance and require the submittal of additional, reasonable information not otherwise required by this Permit but deemed necessary by the Division to complete its evaluation. Due to security requirements and potential for active Army training activities, visits will be planned and coordinated at least a week in advance. Security checks and MAARNG escort will be required.
GC 5.	Any land protected to achieve a long-term Net Benefit associated with this Permit shall remain undeveloped and protected as habitat for State-listed Species in perpetuity. If land protected and remaining held by MAARNG to achieve Net Benefit is required for future development to support the training mission, full coordination with the Division will occur to include development of an alternatives analysis and Net Benefit plan.
GC 6.	This Permit shall not preclude the review of future projects on the Property that are subject to the Massachusetts Wetlands Protection Act (M.G.L. c. 131, s. 40) and Regulations (310 CMR 10.37, 10.58(4)(b), 10.59), as applicable, by the Division.
GC 7.	This Permit does not relieve the Permit Holder of the necessity of complying with all applicable federal, state or local statutes, ordinances, bylaws or regulations, including but not limited to those administered by the Towns of Bourne and Sandwich Conservation Commission and the Massachusetts Department of Environmental Protection.
GC 8.	All Work shall be in conformance with the Plans of Record. Any changes, updates, or revisions to the Project, or any additional work beyond that shown on the Plans of Record, shall require additional review and approval by the Division prior to implementation, pursuant to General Condition #9.
GC 9.	Any proposed change to any plan identified in this Permit, or to the State-listed species conservation and management plan required by way of this Permit, shall require the Permit Holder to inquire of the Division, in writing, whether the change is significant enough to require the filing of a new Conservation and Management Permit Application, and or require additional long-term Net Benefit for affected State-listed Species. The Division retains the right to require the submittal of additional, reasonable information to evaluate the proposed plan change.
GC 10.	This Permit shall apply to, and inure to the benefit of, the Permit Holder and any successor-in-interest of the Permit Holder, or to a subsequent successor-in-control of the Property or portion thereof subject to this Permit should the Permit Holder convey its record ownership of the Property to said successor-in-control, as well as to any contractor or other person performing Work conditioned by this Permit.

	<p>Within three (3) days of the transfer of an interest in the Property or a portion thereof, any successor-in-interest or subsequent successor-in-control [i.e., subsequent owners or operators] of the Property or a portion thereof shall provide the Division with a letter indicating (1) that the successor is the successor-in-interest of the Permit Holder or the successor-in-control [i.e., current owner or operator] of the Property or a portion thereof, and (2) that said successor will perform the obligations of the Permit Holder as set forth in this Permit.</p>
GC 11.	<p><b>Prior to the initiation of Work</b>, the Permit Holder shall notify the Division in writing of the name, address, email, business and home telephone numbers of the project supervisor(s) and/or contractor(s) responsible for compliance with this Permit. The Permit Holder shall provide updated information in writing to the Division should new or additional project supervisors and/or contractors be hired after Work has commenced. <b>Prior to the initiation of Work</b>, said project supervisor(s) and/or contractor(s) shall be provided a copy of this Permit. Said project supervisor(s) and/or contractor(s) may be held responsible for violations of this Permit performed by said project supervisor(s) and/or contractor(s).</p>
GC 12.	<p><b>Within six (6) months of the initiation of Work</b>, the Permit Holder will provide a full list of parcel information for all affected parcels and a timeline for registering the text of this Permit in partnership with the Department of Capital Asset Maintenance and Management. The text of this Permit shall be recorded by the Permit Holder in the Registry of Deeds or the Land Court for the district in which the Property is located so as to become a record part of the chain of title of the Property. In the case of recorded land, the Permit shall be noted in the Registry's Grantor Index under the name of the owner of the Property upon which the proposed Work is to be done. In the case of registered land, the Permit shall be noted on the Land Court Certificate of Title of the owner of the Property upon which the proposed Work is done. The Permit Holder shall submit to the Division a date-stamped and signed copy of said recorded Permit showing the date and book and page of recording within five (5) business days after recording and/or filing, as applicable.</p>
GC 13.	<p><b>Prior to the initiation of Work</b>, the Permit Holder shall send a summary report to the Division which: (a) demonstrates compliance with all pre-Work General and Special Conditions of the Permit; and (b) requests permission to initiate the Work authorized by the Permit. Unless otherwise authorized by the Division in writing, <b>no Work may be initiated on the Property</b> until the Permit Holder has received written confirmation from the Division confirming compliance with all pre-Work General and Special Conditions and authorizing the initiation of Work. <b>Within three (3) days of the initiation of Work</b>, the Permit Holder shall send a letter to the Division confirming the date upon which Work commenced.</p>
GC 14.	<p>The Project authorized by this Permit shall be completed within twenty (20) years from the date of issuance. If needed, the Permit Holder shall submit a written request to the Division for an extension of time to complete said Project, and the Division will review the Project pursuant to MESA for any continuing impacts as described herein and for any new impacts to any State-listed species found subsequent to the issuance date of this Permit. Said request shall be submitted to the Division at least sixty (60) days prior to expiration of this Permit and shall include a summary report demonstrating compliance with all General and Special Conditions of this Permit.</p>
GC 15.	<p><b>Within (3) months of the completion of Work</b> the Permit Holder shall submit to the Division a written request for a Certificate of Permit Compliance (the "Certificate"), including as-built plans and other supporting materials demonstrating the completion of Work and compliance with all General and Special Conditions of the Permit.</p> <p>The text of the Division-issued Certificate shall be recorded by the Permit Holder in the Registry of Deeds or the Land Court for the district in which the Property is located so as to become a record part of the chain of title of the Property. Unless an extension is granted in writing by the Division pursuant to</p>

	<p>General Condition #14, the Permit Holder shall record the Division-issued Certificate <b>prior to expiration of the Permit</b>. The Permit Holder shall submit to the Division a date-stamped and signed copy of said recorded Certificate showing the date and book and page of recording <b>within five (5) business days after recording and or filing</b>, as applicable.</p>
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G. Special Conditions

SC 1.	<p><u>Work Authorized by the Permit:</u> This Permit authorizes the construction of the Multi-Purpose Machine Gun (MPMG) Range. Work on the MPMG Range will occur in two phases; Phase 1 includes ±142 Acres of disturbance, and Phase 2 includes ±65 acres of disturbance. This Permit also authorizes construction of other phases of the Master Development Plan described above. Collectively, the Work will result in a minimum of ±308 acres of disturbance as shown on the Project Plan (the “Work”; Attachment 1) and further detailed in the Permit Application. Unless otherwise approved in writing by the Division, all Work shall be confined to the area of the Property within the limits of Work shown on the Project Plan (Attachment 1) and further detailed in the Permit Application. The Work also includes additional, future phases of development proposed by the Permit Holder and determined by the Division to be part of the Master Development Plan. The Work also includes any other on-site activity required by the Division as a condition of this Permit. <b>Prior to the start of work on Phase 2 of the MPMG Range, the Permit Holder shall submit site development plans and a proposal to meet Net Benefit to the Division for review and written approval.</b></p>
SC 2.	<p><u>Construction Phasing:</u> Prior to the start of Work on any individual phase of the Project, the Permit Holder shall provide to the Division a project description and site plan associated with that phase. Said site plan shall include parcel boundaries, the total parcel acreage, and the total acreage within the proposed limits of Work. <b>The Permit Holder shall submit site development plans and a proposal to meet Net Benefit to the Division for review and written approval.</b></p>
SC 3.	<p><u>Permanent Protection of Habitat - Fee Transfers:</u> In order to provide a Long-term Net Benefit to the conservation of the Eastern Box Turtle, State-listed Grassland Birds, and State-listed Lepidoptera, the Permit Holder has proposed, by way of the Permit Application, to permanently protect the following parcels, as shown on Figures 5.2 “Mitigation Tracts 1-4”, 5.3 “Mitigation Tract 5”, and 5.4 “Mitigation Parcel H-Unit K” of the Permit Application, by deeding fee ownership to the Massachusetts Department of Fish and Game.</p> <p><b>Prior to the start of work on Phase 1 of the MPMG Range, the parcels identified below shall be transferred to the Massachusetts Department of Fish and Game.</b> The Permit Holder shall provide proof of conveyance of said land, with a copy of the recorded deed submitted to the Division within five (5) business days of recordation.</p> <ol style="list-style-type: none"> <li>1) Special Military Reserve Commission Parcels 1, 2, 3, 4 and 5 (totaling 261 acres), owned by the Commonwealth of Massachusetts).</li> </ol> <p>Once grassland conversion on Parcel H, Unit K has been completed, this acreage will be available to use as Net Benefit mitigation for grassland impacts. The land transfer of Parcel H, Unit K to the Massachusetts Department of Fish and Game is in process and land preservation credits will be applied when all parties agree that conversion has occurred. This is affirmed in Colonel Timothy Mullens email dated August 21, 2020 (Attachment 4.) Military Division shall transfer this parcel prior to initiation of Work on the Transient Troop Headquarters or within one (1) year from the issuance of the CMP, whichever is earlier. The MAARNG will apply for a license to maintain and manage this area as outlined herein. The Permit Holder shall provide proof of conveyance of said land to the Massachusetts</p>

	<p>Department of Fish and Game, with a copy of the recorded deed submitted to the Division within five (5) business days of recordation.</p> <p>2) Massachusetts Military Division Parcel H of Unit K (totaling ±150 acres).</p>
SC 4.	<p><u>Permanent Protection of Habitat - Establishment of Forest Canopy Reserves, Pine Barrens Mitigation Focal Areas, and Grassland Mitigation Focal Areas:</u> In order to provide a Long-term Net Benefit to the conservation of the State-listed species impacted by the Project, the Permit Holder has proposed, by way of the Permit Application, to establish and permanently protect the following areas, as shown on Figures 5.6 "Forest Canopy Reserve Areas" and 5.7 "Pine Barrens Mitigation Focal Areas" and as further detailed and described in the Permit Application (Section 5).</p> <ol style="list-style-type: none"> <li>1) <b>Forest Canopy Reserves (1,177 acres):</b> The Forest Canopy Reserve Areas (FCRA) are comprised of 1,177 acres in two separate areas within Camp Edwards as shown on Figure 5.1 and Figure 5.6 of the CMP Application. The intent of these FCRA's are to be "set aside" for management planning for the goal of retention of the forest canopy to preserve a closed canopy condition which is valuable for the Eastern Box Turtle. That is, these areas are for the preservation of more forested later successional areas. These areas are primarily vegetated with mature pitch pine oak forest (PPOF) with closed canopy. These FCRA's will also allow woods with less of a canopy cover to evolve into a more closed canopy condition.</li> <li>2) <b>Pine Barrens Mitigation Focal Areas (3,402 acres):</b> The Pine Barrens Mitigation Focal Areas are comprised of 3,402 acres over three different areas within Camp Edwards as shown in Figure 5.1 and Figure 5.7 of the CMP Application. The intent is to implement needed management of these focal areas in order to maintain the pitch pine scrub (PPSO) and scrub oak shrublands (SOS) communities.</li> <li>3) <b>Grassland Mitigation Focal Areas (107 acres):</b> The Grassland Mitigation Focal Areas are comprised of 107 acres in two different areas within the JBCC Cantonment Areas as shown in Figure 5.1 and Figure 5.8 of the CMP Application. The intent is to hold these areas in reserve for grassland conversion in the event additional area is needed or conditions/agreements change relative to the primary mitigation area (Parcel H – Unit K). Neither area would be as beneficial for State-listed species as intensive improvement/management in this primary location, but if needed they can provide nearby grassland habitat by removing existing woodland.</li> </ol> <p><b>Prior to the start of work on Phase 1 of the MPMG Range, the Forest Canopy Reserves, Pine Barrens Mitigation Focal Areas, and Grassland Mitigation Focal Areas shall be incorporated into the 2020 revision of the Camp Edwards Integrated Natural Resources Management Plan (INRMP) and all INRMPs thereafter.</b></p> <p>As described in the conservation and management plan, the protection of these areas does not preclude any normal use for the Camp Edwards Training Site, to include soldier and other training activities, maintenance and repair of existing infrastructure and training areas, habitat management consistent with this permit and the INRMP, and all other regular actions. <b>Such activities and/or use areas must preserve the character of the respective mitigation zone and meet the goals of the Forest Canopy Reserve or Mitigation Focal Area. Where activities are not compatible with mitigation, alternative sites should be identified or amendments to mitigation zones should be evaluated by the Permit Holder and the Division, requiring written approval from the Division.</b></p> <p>The boundaries of focal areas and forest canopy reserves were identified to provide excessive acreage for mitigation banking purposes and are not anticipated to be managed in full as mitigation unless project implementation and habitat management planning guide such action. Boundaries of Focal Areas and Reserves are intended to be stable and established. Any proposed changes to these boundaries shall be</p>



	<p>requested in writing to the Division. The request shall be reviewed and if approved, received written authorization by the Division. Prior to any formal request, early interagency coordination and INRMP review is required. Proposed adjustments (additions or removals) must evaluate and present the impacts to Net Benefit planning and the overall mitigation bank.</p>
<p>SC 5.</p>	<p><u>Vegetation Management of MPMG Range, Fire Breaks, and Fuel Treatment Areas:</u> Management of vegetation and the floor of the MPMG Range shall adhere to the Division approved protocols described in the Permit Application (Appendix A, Sections 3.4.3 and 6) unless otherwise approved by the Division. Fire breaks consist of a ±15 foot gravel or hardpacked dirt road with ±30 feet of winter mowed grass/forbs/shrubs on each side. In addition, there is a ±200 foot fuel management buffer (shaded fuel break) on each side. This area is comprised of a mosaic of mowed understory and 20-40 foot spacing of the canopy. Mowing, tree thinning, and prescribed fire are the proposed primary management tools.</p> <p>Future management actions will be adaptively refined based on research (see Special Condition #6) and monitoring (see Special Condition #9). The Permit Holder shall meet with the Division annually to review research and monitoring results and observed changes to vegetation structure and composition in response to management operations, in order to refine management actions and maximize benefit for State-listed species.</p>
<p>SC 6.</p>	<p><u>State-listed Species Monitoring and Research:</u> In order to provide a Long-term Net Benefit to the conservation of state-listed species impacted by the Project, the Permit Holder has proposed, by way of the Permit Application, to implement the monitoring and research studies listed below, as further detailed and described in the CMP Application (Section 5.3).</p> <ol style="list-style-type: none"> <li>1) Lepidoptera long-term monitoring, beginning in 2021       <ol style="list-style-type: none"> <li>a. Develop statistical foundation for long-term monitoring plan.</li> <li>b. Implement plan to evaluate population and status trends for state-listed species with particular focus on impacts of range construction and habitat management including both mitigation actions (e.g., pine barrens restoration) and fire hazard reduction actions (e.g., shaded fuel break and prescribed fire management).</li> </ol> </li> <li>2) Annual Eastern Whip-poor-will Survey (EWPW) and support of the Division’s EWPW Study       <ol style="list-style-type: none"> <li>a. As relevant, continue coordination and project support for the research efforts by the Division using GPS and other locational technology to investigate life history and site use, which may also inform management actions.</li> <li>b. MAARNG has, in partnership with the Division, conducted the Northeast Nightjar Survey throughout Camp Edwards to monitor long-term population trends and site use dynamics. MAARNG will continue to implement this long-term monitoring and coordinate with the Division to include methods and data transfer.</li> </ol> </li> <li>3) Long Term (5 Year) Eastern Box Turtle radio telemetry study to evaluate the impacts of range development and habitat management actions within Camp Edwards       <ol style="list-style-type: none"> <li>a. MAARNG will monitor Eastern Box Turtles at Tango/Sierra Range and the MPMG Range vicinity for at least the period from 2020 through 2024 to investigate habitat use and response to large scale management and range development. The monitoring will also identify “hot spots” for turtle activity and conservation and evaluate potential threats (e.g., fly larvae, respiratory diseases) and their impacts on box turtles.</li> <li>b. Long-term tracking will primarily be limited to turtles found and tagged during pre-construction surveys within and surrounding project areas. Turtles found truly opportunistically have been and will continue to be tagged and tracked as they are found adjacent to or within proposed project areas with particular emphasis on Tango, Sierra, and MPMG ranges.</li> </ol> </li> </ol>

	<p>4) Annual Grassland Bird Monitoring</p> <p>a. MAARNG has conducted site-wide breeding bird surveys since 1994, including within the managed grasslands where state-listed birds are concentrated. Beginning in 2014 methodology was shifted to a more robust and static point count methodology. This monitoring provides a wealth of information on avian population trends on base that are compared to external monitoring (e.g., Breeding Bird Surveys) and will now provide baseline data with which to compare future surveys. The site-wide, annual avian point count surveys will continue with emphasis on managed grasslands for the state-listed and otherwise uncommon grassland birds.</p> <p>5) Monitoring of Invasive Species</p> <p>a. Basic monitoring and reporting of invasive species occurrence in project areas and mitigation areas is critical to developing management plans to address any arising problems. This information will guide invasive plant treatments and may influence adaptive management for mitigation actions and/or other actions such as wildfire hazard reduction, range maintenance, or firebreak maintenance. Methods for monitoring will be standard and fairly simple, but critical to management planning.</p> <p><b>The Permit Holder shall coordinate with the Division to develop and refine draft monitoring and survey protocols for each study. Within six (6) months following the start of work on Phase 1 of the MPMG Range, the Permit Holder shall submit final draft protocols for the studies listed above to the Division for final review and written approval unless alternative timelines are otherwise approved. The Permit Holder shall coordinate with the Division throughout implementation of the monitoring and research studies and provide written reports of study results in accordance with the final approved protocols.</b></p>
SC 7.	<p><u>Use of Native Species:</u> Prior to application of seed and/or stabilization activities, the Applicant shall submit, for Division review and approval any proposed plantings and/or seed mixes. All seed mixes and plantings shall be native to Barnstable County, Massachusetts, as provided in The Vascular Plants of Massachusetts: A County Checklist, First Revision (Dow Cullina, Connolly, Sorrie &amp; Somers, 2011); unless approved otherwise by the Division.</p>
SC 8.	<p><u>Habitat Management:</u> In order to provide a Long-term Net Benefit to the conservation of state-listed species impacted by the Project, the Permit Holder has proposed, by way of the Permit Application, to implement habitat management in the following areas as detailed and in the CMP Application.</p> <p>1) <i>Pine Barrens Mitigation Focal Areas.</i> The goal is to manage fire-adapted pitch-pine and scrub oak communities through prescribed fire, mowing, whole tree harvesting, and invasive species management (including targeted chemical treatment of native and non-native species as appropriate). This is further described in Section 5.2.1 “Pine Barrens Mitigation Focal Areas” of the Permit Application.</p> <p>a. Initial (2019-2023) targets for pine barrens mitigation include an annual average of 160 acres of prescribed burning and 50 acres of mechanical management.</p> <p>b. Long-term maintenance targets for pine barrens mitigation areas include 100 acres of prescribed burning and 20 acres of mechanical management to include prescribed fire support and forestry.</p> <p>2) <i>Grassland Mitigation Focal Area (Parcel H Unit K).</i> The goal is to manage a grassland community through prescribed fire, mowing, whole tree harvesting, brush removal, harrowing, seeding and invasive species management (including targeted chemical treatment of native and non-native species as appropriate). This is further described in Section 5.2.2 “Grassland Mitigation Focal Areas” of the Permit Application.</p>

	<p>a. Initial (2019-2023) targets for grassland mitigation and conversion include an annual average of 40 acres of prescribed burning and 40 acres of mechanical management and/or chemical treatment.</p> <p>b. Long-term maintenance targets for grassland mitigation areas include an annual average of 40 acres of prescribed burning and 10 acres of mechanical management and/or chemical treatment.</p> <p>The Habitat Management Schedule is detailed in Table 5-11 “Actions Proposed by Year” and described throughout the CMP Application (Sections 3-7). Measurable targets as outlined above (both planned and completed) will be assessed annually during the meeting and reporting outlined in Special Condition 9. Adjustments to these objectives will be proposed based on adaptive management and approved and documented through the formal processes described. These targets are included in the Integrated Natural Resources Management Plan for Camp Edwards. Annual targets should be assessed over time to allow for annual variation in accomplishment and external influences on management capacity (e.g., years of more or less implementation success) consistent with long-term management planning.</p> <p>The habitat management areas will be managed in accordance with the goals, objectives, and schedules detailed in the CMP Application and in coordination with the Division. Habitat Management will be informed by research and monitoring and guided by adaptive management principles. The Permit Holder shall meet with the Division annually to determine the performance and success of the habitat management actions.</p>
SC 9.	<p><u>Long-Term Habitat Monitoring and Management of the Mitigation Focal Areas:</u> The Permit Holder has an established and effective conservation and land management program with demonstrable success in managing sandplain grasslands and pine barrens habitat with commitments and planning documented through the INRMP process. After completion of the initial mitigation requirements detailed in this CMP (i.e. establishment of Forest Canopy Reserves, Pine Barrens Mitigation Focal Areas and Grassland Focal Area; creation of high quality sandplain grassland habitat in Parcel H of Unit K; initial habitat enhancement of Pine Barrens Mitigation Focal Areas), the Permit Holder will work with the Division to set long-term habitat maintenance and management targets for Parcel H of Unit K and the Pine Barrens Mitigation Focal Areas. These long-term habitat maintenance and management targets will be incorporated into the future INRMPs to ensure the long-term compliance with the Permit.</p> <p>The Permit Holder shall provide the Division with annual Permit compliance reports, which will be reviewed and discussed during an annual Permit compliance meeting. Annual Permit compliance meetings will review the implementation of development projects and both ongoing and future mitigation actions. Specific objectives and targets for both initial habitat enhancement actions as well as long-term habitat maintenance and management activities will be discussed and refined. Adaptive management principles will be the foundation for long-term implementation of habitat management actions to maximize net benefit of State-listed species, to be informed by habitat and species monitoring results, the outcomes of previously implemented mitigation projects, and collaborative discussions between the Permit Holder and the Division during annual meetings.</p> <p>The existing INRMP process requires annual, in-person, meetings between the Sikes Act signatory partners including MADFW, the Permit Holder, and US Fish and Wildlife Service. The INRMP, Sikes Act, AR200-1, and the Environmental Performance Standards (Chapter 47, Acts of 2002, M.G.L.) all consider and incorporate management activities for the net benefit and sustainability of state-listed species at Camp Edwards. The annual Permit compliance meetings described above may be coincident with annual INRMP meetings or separate, with either party able to request separate meetings if needed or desired.</p> <p>Long-term habitat management and monitoring of the Pine Barrens Mitigation Focal Areas and the Grassland Mitigation Focal Area is a condition of the Permit and is required in perpetuity. Once initial</p>

	<p>habitat enhancement actions are complete, the Permit Holder and the Division will collaboratively determine management return interval and scope to maintain high quality habitat for State-listed species in perpetuity. Long-term habitat management and monitoring actions required by the Permit will be incorporated into each five (5) year update to the INRMP as objectives and management projects, to be guided and adaptively refined through research and ongoing monitoring.</p>
SC 10.	<p><u>State-listed Species Protection During Construction:</u> Prior to the initiation of Work, the Permit Holder shall develop and submit a rare species protection plan for each phase of work to the Division for review and written approval. The Division is available for consultation on the development of the project specific protection plans.</p> <p>Prior to and during Work on Phase 1 of the MPMG Range, the Permit Holder shall implement the attached Turtle Protection Plan (Attachment 3), which has been approved by the Division and includes pre-construction turtle sweeps, installation of temporary turtle barriers, construction staff education, and other measures as necessary to protect State-listed turtles during construction. If changes to said Turtle Protection Plan are proposed, said changes must be submitted to the Division for written approval prior to implementation of any changes. Depending on the scope of proposed changes, a new Turtle Protection Plan may be required.</p>
SC 11.	<p><u>Annual Coordination:</u> The annual meeting may be coincident with the INRMP annual meetings or separate, with either party able to request separate meetings if desired. Annual meetings will review the implementation of development projects and mitigation actions and serve as an audit of overall CMP compliance. Specific targets and objectives for long-term habitat maintenance and management will be addressed through future coordination between the Permit Holder and the Division and incorporated into the INRMP. Adaptive management principles will be the foundation for long-term implementation of habitat management for the Net Benefit of impacted species, to be informed by monitoring efforts, the outcomes of previously implemented mitigation projects, and discussions during the annual meetings integrating this information.</p>
SC 12.	<p><u>Camp Edwards Integrated Natural Resources Management Plan (INRMP):</u> The conditions and requirements of this Permit shall be incorporated into the 2020 update of the Camp Edwards INRMP and all INRMPs thereafter. The CMP Application and CMP shall be incorporated as an appendix of the INRMP. If not finalized prior to the completion of the 2020 INRMP revision, then they shall be included as a draft and final version of the CMP Application and CMP shall be incorporated as an Appendix during the next annual update. Specific reference to the requirements of the Permit shall be incorporated into the INRMP as objectives and management projects. The INRMP must continue to meet the Permit net benefit requirements for mitigation areas, informed through research and monitoring and guided by adaptive management principles.</p>
SC 13.	<p><u>Joint Base Cape Cod Environmental Management Commission (EMC):</u> The Permit Holder shall present the Permit to the EMC, provide an overview of the Master Development Plan, the conditions and obligations of the Permit, and how the Permit will be integrated into the INRMP and both ongoing and future base operations.</p>
SC 14.	<p><u>Construction Staff Education:</u> All construction, landscaping, and other sub-contractors associated with the Project shall be informed in writing of the likely presence of State-listed species on the Property and what measures should be implemented to minimize direct harm to State-listed species. Further, no wildlife shall be removed from the Property without approval of a qualified wildlife biologist or the Division except as necessary to receive veterinary treatment in the case of harm during construction.</p>

SC 15.	<u>Amendment of Permit to Cover Other Portions of the Property</u> : Pending receipt of necessary approvals from the Executive Office of Energy & Environmental Affairs pursuant to the Massachusetts Environmental Policy Act (MEPA), the Permit Holder may at its sole discretion request that this Permit be amended to include future, as yet unspecified projects determined by the Division to be part of the Master Development Plan. The Division may at its sole discretion accept the request for Permit amendment and impose additional conditions as necessary, or deny the request, at which point the Permit Holder will be subject to MESA review procedures in effect at the time, if any.
SC 16.	<u>Rare Species Observations</u> : The Division shall be notified via email within ten (10) days of the observation of any State-listed species within or directly adjacent to the limits of Work. Formal observation submission will be through the Division's data submittal tool, the Vernal Pool & Rare Species (VPRS) Information System with MAARNG annual state-listed species entry. VPRS and our paper observations forms can be found at: <a href="http://www.mass.gov/dfw/nhesp/vprs">http://www.mass.gov/dfw/nhesp/vprs</a> .

#### H. Notice of Appeal of Rights:

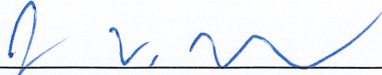
This Permit is a final decision of the Division of Fisheries and Wildlife pursuant to 321 CMR 10.23. Any person aggrieved by this decision shall have the right to an adjudicatory hearing at the Division pursuant to M.G.L. c. 30A, s.11 in accordance with the procedures for informal hearings set forth in 801 CMR 1.02 and 1.03.

Any notice of claim for an adjudicatory hearing shall be made in writing and be accompanied by a filing fee in the amount of \$500.00. The notice of claim shall be sent to the Division by certified mail, hand delivered or postmarked within twenty-one (21) days of the date of issuance of this Permit to:

Mark S. Tisa, Director  
Massachusetts Division of Fisheries and Wildlife  
Field Headquarters  
One Rabbit Hill Road  
Westborough, MA 01581

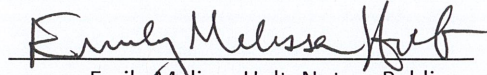
Any notice of claim for an adjudicatory hearing shall include the following information:

1. The file number for the project;
2. The complete name, address and telephone number of the person filing the request, and the name, address and telephone number of any authorized representative;
3. The specific facts that demonstrate that a party filing a notice of claim satisfies the requirements of an "aggrieved person," including but not limited to (a) how they have a definite interest in the matters in contention within the scope of interests or area of concern of M.G.L. c. 131A or the regulations at 321 CMR 10.00 and (b) have suffered an actual injury which is special and different from that of the public and which has resulted from violation of a duty owed to them by the Division;
4. A clear statement that an adjudicatory hearing is being requested;
5. A clear and concise statement of facts which are grounds for the proceeding, the specific objections to the actions of the Division and the basis for those objections; and the relief sought through the adjudicatory hearing; and a statement that a copy of the request has been sent by certified mail or hand delivered to the applicant and the record owner, if different from the applicant.



Jonathan Regosin, Deputy Director  
Massachusetts Division of Fisheries & Wildlife

On this 29<sup>th</sup> day of September, 2020, before me, the undersigned notary public, personally appeared Jonathan Regosin, Deputy Director, proved to me through satisfactory evidence of identification, which was personal knowledge, to be the person whose name is signed on the preceding or attached document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.



Emily Melissa Holt, Notary Public  
My Commission expires: July 12, 2024

**Conservation Permit 020-358.DFW**

**Issued September 29, 2020**

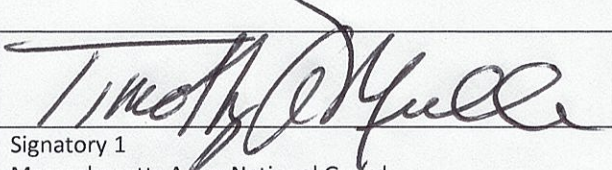
**Work must be completed by September 29, 2040**





**ACKNOWLEDGEMENT AND ACCEPTANCE OF ALL TERMS OF THIS CONSERVATION PERMIT**

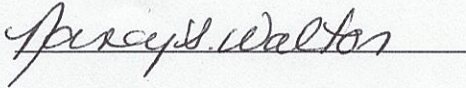
The undersigned below agrees that commencement of any work authorized by and described in this Conservation and Management Permit constitutes acknowledgement and acceptance of all terms of this Permit.

  
Signatory 1  
Massachusetts Army National Guard

COMMONWEALTH OF MASSACHUSETTS

On this 30<sup>th</sup> day of Sept, 2020 before me, the undersigned notary public, personally appeared Timothy B. Muller, proved to me through satisfactory evidence of identification which was Military ID to be the person whose name is signed on the preceding or attached document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

Notary Public



SEAL



My commission expires: 4/4/2025

### **Distribution List**

Jake McCumber, Massachusetts Army National Guard

Kathryn Barnicle, AECOM

Bourne, Falmouth, and Sandwich Board of Selectmen

Bourne, Falmouth, and Sandwich Conservation Commissions

Bourne, Falmouth, and Sandwich Planning Boards

DEP Southeastern Regional Office, Wetlands Program

DFW Southeast Wildlife District Office

Environmental Management Commission, Upper Cape Water Supply Reserve

Page Czepiga, MA Environmental Policy Act Office